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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,298	01/03/2006	Masato Tanaka	4035-0172PUS1	1054
2292	7590	07/13/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LE, TUNG X	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/532,298

Applicant(s)

TANAKA ET AL.

Examiner

Tung X. Le

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/22/2005</u> ; <u>01/31/2006</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Claims 1-7 are currently presented in the instant application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, in lines 1-2, the recitation of "the inductive member can be freely changed" is unclear because of what is meant freely changed of the inductive member and it would be a diameter or a height?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kienzle et al. (U.S. 6,891,513 B2).

Regarding claim 1, Kienzle discloses in figures 2 and 4 an antenna device comprising a substantially circular substrate (3); a substantially circular microstrip patch (4) provided on the upper surface of the substrate (figure 4); and a substantially cylindrical conductive member (2) having upper and lower opening portions (see upper and lower levels of the horn [2]) erected in a substantially vertical direction around the microstrip patch (figure 4), wherein the lower opening portion of the conductive member is grounded to a ground plate (7) provided on the lower side of the substrate (see figure 1, the ground plate [7] and the conductive member [2] are contacted), and wherein the diameter of the upper opening portion of the conductive member is larger than the diameter of the lower opening portion of the conductive member (see figure 4).

Regarding claim 7, Kienzle discloses that the conductive member can be freely changed (see column 4, lines 5-21; and the purpose of "freely changed" of the conductive member is achieving a desired gain of the antenna).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kienzle et al. (U.S. 6,891,513 B2).

Regarding claims 2-4, Kienzle discloses every feature of the claimed invention, as expressly recited in claim 1, excluding sizes of the height of the conductive member,

the diameter of the substrate, and the diameter of the upper opening portion. However, such a difference is not of patentable merits since the sizes can be selected at a desired level based on a particular application or environment of use and such a selection of a design choice would have been involved with only routine skills in the art. Therefore, to employ the sizes of the height of the conductive member, the diameter of the substrate, and the diameter of the upper opening portion of Keinzle to be suitable to a desired application or environment of use would have been deemed obvious to a person skilled in the art.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kienzle et al. (U.S. 6,891,513 B2) in view of Doyle (U.S. 4,660,048).

Regarding claim 5, Kienzle discloses every feature of the claimed invention, excluding a honeycomb material of the substrate.

Doyle discloses in figure 3 a honeycomb material of the substrate (48) in order for reducing the weight of the antenna device (column 2, lines 39-42).

Since one of ordinary skill in the art would recognize the benefit of reducing the weight of the antenna, it would have been obvious to provide Kienzle with a honeycomb material of the substrate built on the antenna device as taught by Doyle.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kienzle et al. (U.S. 6,891,513 B2) in view of Kuramoto et al. (U.S. 5,977,710).

Regarding claim 6, Kienzle discloses every feature of the claimed invention, excluding a parasitic microstrip patch is providing in the front of the radiation surface of the microstrip patch.

Kuramoto discloses in figure 1A a parasitic microstrip patch (2A) is providing in the front of the radiation surface of the microstrip patch (4) in order for achieving an excellent broad band performance in a high frequency signal of the antenna device (see column 1, lines 14-17 and 45-52).

Since one of ordinary skill in the art would recognize the benefit of achieving a high frequency signal and an excellent broad band performance of the antenna device, it would have been obvious to provide Kienzle with a parasitic microstrip patch of the antenna device as taught by Kuramoto.

Citation of Relevant Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Luk et al. (U.S. 6,593,887 B2) discloses a wideband patch antenna with L-shaped probe.

Collins (U.S. 2003/0184479 A1) discloses a non-planar ringed antenna system.

Rao et al. (U.S. 2003/0052825 A1) discloses a spatial null steering microstrip antenna array.

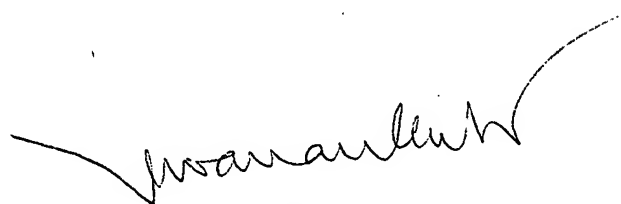
Inquiry

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner
Tung Le
AU 2821
June 14, 2006

A handwritten signature in black ink, appearing to read 'Hoanganh Le', with a long, sweeping horizontal line extending to the left and a curved line extending upwards and to the right.

Hoanganh Le
Primary Examiner